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Title: Portable Sample Preparation For Chemical and Biological Analysis

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Tech Snapshot Chemistry

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PORTABLE SAMPLE PREPARATION FOR CHEMICAL AND BIOLOGICAL ANALYSIS

Autonomously prepares samples for on-line automated analysis

BENEFITS

Provides an automated, autonomous, reproducible, accurate, and rapid sample preparation platform. No consumables or reagents are required.

- Labor and Cost Reduction
- Reduced Human Error and Rework
- Increased Accuracy in Standard Sample Preparation



SUMMARY

Preparing samples for chemical or biological analysis is often time consuming and a critical step function to assure an accurate analysis. This invention provides an automated, hands-free, highly accurate device to prepare industrial, chemical, or biological samples for instrumental analysis methods.



MARKET

Key markets include analytical chemistry device manufacturing, groundwater testing, remediation and environmental clean-up, biotechnology, industrial process manufacturing, microelectromechanical systems, pharmaceutical laboratories, and food processing industries with quality assurance laboratories.

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WHY WE ARE BUILDING PORTABLE SAMPLE PREPARATION FOR CHEMICAL AND BIOLOGICAL ANALYSIS

Sample preparation is one of the most important steps in analytical chemistry. Attention to detail and accuracy are essential and require that methods are reproducible and consistent. Problem solved is the often labor intensive, and time consuming task of quickly and accurately preparing samples for chemical and biological analysis, which is why we invented this technology.



WHAT'S BEHIND OUR TECHNOLOGY

We have developed a working prototype "kit design" and software algorithm that combines spectroscopy and an acoustic focusing method to provide feedback for optimizing sample prep in advance of analysis.



OUR COMPETITIVE ADVANTAGES

Our device and technique offers a time saving, efficient, and rapid sample preparation solution set, which significantly enhances the analytical engineering and chemical/biological analytical experience by overcoming difficult chemistry matrices.



OUR TECHNOLOGY STATUS

The base prototype and working lab units require commercial customization to meet specific customer needs. This is an opportunity for licensing or CRADA partnership with industrial players looking to automate their analytical device platforms or laboratories.



PUBLICATIONS AND IP

Portable sample preparation and analysis system for micron and sub-micron particle characterization using light scattering and absorption spectroscopy

Stark, Peter C. 2011, US Patent Application 11/877,136